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16. Abstract A study conducted by Yuriy A. Senkevich (M.D.) and Mikhail A. Novrikov (Candidate of Medical Sciences) on psychological compatibility in an international crew is discussed. (Their report was read at the 24th International Astronautical Congress, Baku, 1973. See LOC/FRD Item No. 14415). Dr. Senkevich, who participated in both of Thor Heyerdahl's Ra expeditions, concludes that although disagreements and "clique" formations are inevitable, they can be minimized by a scientific approach to group selection and, especially, selection of a commander. Selection should be based not only on professional qualifications, but also on the individual's ability to relate to others, and training should develop this ability. Previous experience in stress situations is very helpful. Good group relations are also aided by an awareness of differences within the group and by the process of overcoming physical hardships together.			
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WHO SHOULD BE ENTRUSTED WITH AN INTERPLANETARY SPACECRAFT?

O. Borisov

Mikhail Alekseyevich Novikov, candidate of Medical Sciences, and Yuriy Aleksandrovich Senkevich, a physician and participant in two transatlantic expeditions on the sailing vessels "Ra", have been investigating the psychological features of the formation of multinational crews for future international space flights.

They presented a report on this subject at the Twenty-fourth Congress of the International Astronautic Federation.

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Prominent authorities and reliable scientific institutions claim that before the year 2000 man will feel at home at the bottom of the sea and will visit other planets. Of course, they emphasize, even the most advanced country would hardly be capable of accomplishing either of these projects alone. Only together can mankind set out on roads of such varied difficulties.

In this connection, a new specific problem confronts scientists: how to ensure the psychological compatibility of an international crew on interplanetary flights lasting many months? What effect will the extended isolation in a limited and secluded space have on the psychophysiological condition of the members of the crew? What kind of group psychology should there be in the course of the flight?

In order to answer these questions, Yuriy Senkevich and Mikhail Novikov subjected to painstaking analysis and comparisons the experimental and psychological results of two Atlantic voyages of the sailing vessels "Ra" under the leadership of Thor Heyerdahl, the polar

expeditions of the newspaper "Komsomol'snaya Pravda" in the years 1971-72 (marches on foot in the Arctic regions of Severnaya Zemlya, Long Strait and Vrangeli Island), and the investigations in the Antarctic.

This selection of expeditions was not accidental. In each of these cases, isolated groups of people acted independently, in unfamiliar social and natural conditions. Everywhere real dangers, great physical and emotional stresses and climate difficulties accompanied them.

In taking up the investigations, Novikov and Senkevich set as their goal to answer several questions: How should the groups be staffed? What should be their size? According to what principle should "old-timers," i.e., those who have already been on expeditions, be included in the newly created crews? What would promote the "blending" of characters in the process of performing their assignments or, on the contrary, aggravate conflict situations?

An analysis of the results of the expeditions confirmed that the problem of the psychological compatibility is extremely interesting and complex.

Senkevich noticed, for example, the following characteristic details: During the second voyage, when quarrels and conflict matters were resolved, the "veterans" (participants of the "Ra-1" voyage) tried to conceal each other's arguments from the newcomers, since they didn't want to show some of their "weaknesses."

In recruiting international groups, it is essential to take into account the features peculiar to such associations. The contacts and

professional interaction of the members of international crews can be limited owing to an insufficiently thorough knowledge of foreign languages and to socio-ethnic differences. The discussions which arise, as a rule, have a protracted character. The groups which form within the crew, the observations showed, are not always stable: with time, mutual relations are able to change to their diametrical opposites-- from liking to dislike, and vice versa.

Novikov and Senkevich do not see anything out of the ordinary in all this. Such difficulties do not at all have the nature of a fatal inevitability. In the opinion of the researchers, the realization of these differences at the early stages of the existence of the group exerts a shock-absorbing (smoothing--Ed.) effect, which led to situations which reminded one of diplomatic receptions." To the degree that difficulties mount, when extreme conditions arise in the course of performing assignments, the true qualities of every personality come to the forefront. At this point solidarity grows and "etiquette" gives way to spontaneity in mutual relations.

What conclusions do the researchers draw? Here are the most important.

It is possible to successfully resolve the problem of an international crew only on the basis of scientific principles of its staffing, with regard for the psychological and social compatibility of its members. Long before the beginning of a planned international mission it is essential to thoroughly prepare its participants not only in the professional sense, but also in the ability to associate with each other.

It follows that the most worth candidates should be regarded as those who not only are splendidly/^{prepared} professionally, but who have already been in

the stressful conditions of group isolation. Of course, in addition, they must be people who are stable and emotionally healthy.

And finally, perhaps, the most important. It is known what high demands across the widest spectrum of human qualities are made of those who are being considered for an appointment, let us say, as the director of a major enterprise or to the post of captain of a distant voyage. This is here, on the earth. Well then, what features must the commander of an international crew setting out on a three-year expedition to Mars have? Apparently, the very same, but in an even more concentrated form. Hence, the leader appointed should be one who possesses an unconditional personal and professional authority, commands a full set of methods of management and is able to provide psychological comfort and clear delegation of duties.

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